Keywords: Severe traumatic brain injury; Child; Outcome; Cognitive; Functional outcome

Objectives.– Childhood severe traumatic brain injury (TBI) leads to severe and long-standing deficits. The purpose of this study was to evaluate cognitive and functional outcome of children who sustained severe TBI over 24 months and to determine factors predicting outcome and change over time.

Method.– Eighty-one children (aged 0–15 years) consecutively admitted in a single trauma center for severe non-inflicted TBI were included in a prospective longitudinal cohort. Assessment conducted at 3 and 24 months, included age appropriate Wechsler Intelligence Scales and the Pediatric Injury Functional Outcome Scale (PIFOS). SES was assessed by parents' education. Scores were analysed at each time point, and factors influencing change over time were studied.

Results.– The 65 surviving children [66% boys; mean age at injury 8.12 years (SD = 4.6); mean lowest Glasgow Coma Scale (GCS) score 6.16 (SD = 1.8)] were divided in two age groups (< 6 years, $n = 23$ and older, $n = 42$). Forty-three percent of parents had graduated from high school. At 3 months post-injury, mean full-scale IQ (FSIQ) fell one standard deviation below the norms (85; SD = 16) in both age groups. All children had difficulties on the PIFOS. At 24 months, IQ had significantly improved in the older (92.9; SD = 21), but not in the younger group (83.15; SD = 21) and the difference was significant ($p = 0.01$). PIFOS scores improved at 24 months, however 90% of the older age group still displayed difficulties, versus 100% of the younger age group. In multivariate analysis, FSIQ was primarily predicted by SES ($p < 0.0001$) and PIFOS scores by injury severity and SES ($p = 0.001$). However, change over time was predicted by age at injury for FSIQ ($p = 0.01$) and by injury severity for the PIFOS ($p = 0.005$).

Discussion and conclusion.– Severe childhood TBI has major cognitive and functional long-term consequences. Improvement was found at 24 months, but only in the older children. Cognitive and functional outcome were related to parental education on all assessments; however longitudinal evolution over 2 years was not. This could be related to the provision of care for all children post-injury in France, minimizing aggravation over time due to low SES and difficulties to access rehabilitation.

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Gender differences in psychological follow-up of brain injury patients

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Keywords: Psychological follow-up; Traumatic brain injury; Neurosystemic psychotherapy

Introduction.– The specificity of the psychological follow-up, according to the sex of traumatic brain injury patients (TBI) was never studied.

Objective.– Study the differences between the psychological follow-up of TBI men and women

Method.– Retrospective analysis of patients' cohort sent by the SAMSAH TC of Bordeaux, followed during at least one year between 2003 and 2008 according to the neurosystematic approach [1,2]. The symptoms are classified according to the DSM4 in emotional disorders (depression, anxiety) and behavioral disorders (inhibition, aggressiveness, disinhibition, addictions). Results are classified in four groups: G1 (disappearance of the symptoms), G2 (disappearance of a symptom), G3 (improvement of at least a symptom), G4 (no improvement).

Results.– Forty-seven patients are included, 12 women and 35 men, aged on average of 34.3 years. The rate of anxiety and depression is more important in women (100% vs 57% and 83% vs 54%) and the rate of addiction more important in men 8% vs 33%. The women obtain a better global result, with an improvement in 91% of the cases (11/12) against 66% (23/35) in men ($p < 0.05$). The observance is significantly better in women with a higher number of sessions: 15 vs 8, a longer duration of follow-up: 16.5 vs 12.5 months, and a better accepted treatment: 67% of the women vs 23% of the men have an antidepressant, 33% of the women vs 14% of the men are under neuroleptic drugs.

Discussion/conclusion.– Brain injury women are more compliant in the psychological follow-up than men and obtain better results. The reluctance in the psychological follow-up of men could be of cultural origin and due to the refusal of weaning of the more frequent addictions at these last ones. A reflection must be led on the improvement of the observance of the psychological follow-up

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Informal care four years after a severe traumatic brain injury: Results from the PariS-TBI study

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Keywords: Traumatic brain injury; Informal caregivers

Objectives.– To analyse Informal Care provided to severe Traumatic Brain Injury (TBI) patients four years after the accident.

Methods.– This study is a part of a multicenter inception cohort study of 504 patients with a severe TBI in the Parisian area, consecutively recruited between July 2005 and April 2007. Home resident TBI survivors were contacted along with their family one and four years after the injury. Patient's evaluation entailed global disability, neurological impairments, socio-economic situation, quality of life. Informal Caregivers were assessed in terms of perceived burden (Zarit Burden Inventory), quantity of care time and monetary consequences. Four-year evaluation results were compared with one-year evaluation results.

Results.– Among the 504 patients included, 247 survived. Four years after the injury, 133 patients were assessed (80% men, mean age 33 years). Patient's Glasgow Outcome Scale results showed 30% of good recovery, 30% of moderate disability and 31% of severe disability. Ninety-eight % of patients had a primary Informal Caregiver, mainly a woman. Primary Informal Caregiver was part of the family in 98% of the case (43% spouse, 38% parents). Informal Care time concerned IADL (31% of patients), supervision (30%), ADL (28%); all assisted patients were not requiring the same 'profile' of informal care time and support: highest values were found for supervison time (11% patients requiring more than 5 hours a day of supervision time), this in relation with cognitive disability. Informal Carer's four-years burden score (Zarit Burden Inventory) amounted to 20 ± 17.1 what was lighter than one-year burden score (25.1 ± 17); nonetheless, 19% of them reported taking psychotropic drug because of the consequences of their supporting role. Twelve percents of carers needed to adjust professional working hours (what often consisted in reducing their work schedule) and 15% experienced a salary fall because of the time devoted to their relative.

Discussion-conclusion.– Four years after the accident, long-term follow-up of severe TBI patients and of their Informal Caregivers shows a high impact on the Informal Carergivers' socio-economic status.

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Prevalence of history of traumatic brain injury in prison population: A review

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Keywords: Traumatic brain injury; Inmates; Prison

Introduction.– In Europe, prevalence of hopitalized traumatic brain injury (TBI) is estimated to be 0,2–0,3% of the general population. Some consequences of TBI are cognitive and social impairments. For those who had TBI during childhood, these difficulties can even appear after a long period of time. A Finish study, published in 2002, showed that history of TBI is significantly associated to psychiatric problems and delinquency for male subjects. This situation led to multiple discussions about the relation between delinquency and history of TBI.
Objective.– The objective of this review is to present an updated of possible relations between delinquency and history of TBI.
Methodology.– PubMed was used to search articles with the following Keywords: ''Inmates'', ''Prison'', ''Traumatic Brain Injury''. Fifty-one articles were selected for this review and classified according to topics studied: prevalence, relation between neurological lesion and delinquency, validity of inmates' responses and validated questionnaires.
Results.– This analysis highlights a number of major issues:
– all published articles are about inmates' populations from North America, Australia and Northern Europe;
– many studies, including two recent meta-analysis, have found prevalences of history of TBI to be between 40 and 60% of studied populations;
– the youngest the TBI occurred, the longest was time spent in prison and the earliest was the first incarceration;
– validity of inmates' responses to questionnaires is good and a few questionnaires on history of TBI have been validated.
Conclusion.– Based on these results, authors are suggesting to conduct a study, which could establish, for the first time in France, the prevalence of history of TBI among a population of new arrivals in a prison offering a good representation of the general French population of inmates.

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Communications affichées

Version française

P079-f

Évaluation de la qualité de vie chez les patients atteints de *locked-in syndrome* complet

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Mots clés : *Locked-in syndrome* ; Sualité de vie ; AVC ; SLA

Objectif.– Il y a peu d'études dans la littérature sur la qualité de vie (QOL) des patients en LIS complet physique et les facteurs déterminant cette qualité de vie. Nous avons comparé la QOL des patients atteints d'un locked-in syndrome complet à celle de sujets contrôles sains.
Méthode.– Nous avons inclus neuf patients LIS (huit d'étiologie vasculaire, un d'étiologie post-traumatique), 11 sujets contrôles sains. Les échelles suivantes ont été administrées aux patients et aux témoins : McGILL, SF-36 Court, BDI-II et le Toronto Alexithymia Scale (TAS).
Résultats.– Les scores moyens tant pour McGILL que pour SF36 ne différaient pas significativement entre le groupe LIS et les sujets contrôles ; il n'y avait aucune différence significative non plus entre les deux groupes pour le TAS. Par contre, les syndromes dépressifs (BDI-II) étaient significativement plus fréquents chez les patients LIS.
Discussion.– Nos résultats rejoignent ceux des quelques études effectuées sur le sujet. Plusieurs facteurs peuvent avoir un impact sur la qualité de vie des patients LIS comme le soutien de la famille et les interfaces de communication assistées par ordinateur, ces éléments peuvent avoir contribués au maintient de la QOL des patients LIS dans cette étude.

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P080-f

Traitement substitutif par hormone de croissance (GH) chez les personnes traumatisées crâniennes (TC)

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Mots clés : Traumatisme crânien ; Hormone de croissance ; Déficit hypophysaire ; Cognition ; Qualité de vie

Buts.– Les déficits hypophysaires sont fréquents chez les personnes TC et peuvent participer aux séquelles cognitives et comportementales tardives et à l'altération de qualité de vie (QdV). Une étude récente a suggéré que le traitement du déficit en hormone de croissance (GH) peut diminuer les déficits cognitifs. Par contre, son effet sur la participation aux activités de vie quotidiennes (AVQ) et la qualité de vie n'a pas été étudié. Notre objectif était d'analyser l'effet du traitement substitutif sur les capacités cognitives, la participation et la QdV, et les facteurs prédictifs de l'efficacité.
Méthode.– Ont été inclus les patients se plaignant d'une fatigabilité et de troubles cognitifs, à plus d'un an du TC, quelle que soit la gravité. Nous avons évalué les fonctions hypophysaires (par des tests de stimulation de référence), les troubles cognitifs (attention, mémoire, fonctions exécutives), la participation aux AVQ et la QdV (avec l'échelle QOLIBRI). Tous les déficits hypophysaires ont été supplémentés et un groupe de 23 personnes TC traitées par GH a été comparé à un groupe de 27 personnes non traitées par GH. Des évaluations comparatives des fonctions cognitives, de la participation aux AVQ et de la QVQ ont été réalisées après un an de traitement. Nous avons réalisé des ANOVAs avec les facteurs Groupe et Session ($p \leq 0{,}05$).
Résultats.– La plupart des paramètres cognitifs progressaient mais sans différence entre les groupes. Un effet plus évident du traitement par GH a été retrouvé sur la vigilance, le rappel de la figure de Rey et deux des six subtests de l'échelle d'autoévaluation QOLIBRI (facteurs personnels et fonctionnels). Une tendance favorable ($p \leq 0{,}08$) a été retrouvée pour l'orientation spatiale et le rappel immédiat au test de mémoire verbal (Buschke). Les patients évoluant le plus favorablement étaient ceux présentant les performances les plus faibles aux tests cognitifs et une QdV plus médiocre avant traitement.
Conclusion.– Chez les personnes TC présentant des déficits en GH, le traitement substitutif peut contribuer à l'amélioration des performances cognitives et de la QdV. Le bénéfice est plus intéressant quand les troubles sont sévères avant le traitement

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